

AMENDMENTS TO THE CLAIMS:

The following listing of the claims replaces all prior versions and listings of the claims in the present application:

1. (currently amended) A magnetic medium having a recording format therein, the format comprising:

a plurality of user data fields each having a predetermined length; and

at least one control field, each control field being arranged between two user data fields and containing at least one transition, at least one control field containing a first portion having a predetermined number of zeroes preceding a portion containing each transition of the control field, which precedes a second portion having the predetermined number of zeroes, the control field being completely formed by the first portion, the portion containing each transition of the control field and the second portion.

2. (canceled)

3. (original) The magnetic medium according to claim 1, wherein at least two successive control fields contain only one transition.

4. (original) The magnetic medium according to claim 1, wherein at least one control field contains a transition having a predetermined amplitude.

5. (original) The magnetic medium according to claim 1, wherein at least one control field contains a dibit.

6. (original) The magnetic medium according to claim 1, wherein at least one control field contains two transitions, and

wherein each transition has a predetermined amplitude.

7. (original) The magnetic medium according to claim 1, wherein each control field has a predetermined length.

8. (currently amended) A method for adjusting channel parameters for a magnetic readback channel, the method comprising:

detecting a readback signal recorded on a magnetic medium, the readback signal containing a plurality of user data fields each having a predetermined length, and at least one control field, each control field being arranged between two user data fields and containing at least one transition, at least one control field containing a first portion having a predetermined number of zeroes preceding a portion containing each transition of the control field, which precedes a second portion having the predetermined number of zeroes, the control field being completely formed by the first portion, the portion containing each transition of the control field and the second portion; and

adjusting at least one selected readback channel parameter based on information contained in at least one control field.

9. (canceled)

10. (currently amended) ~~A~~The method according to claim 8, for adjusting channel parameters for a magnetic readback channel, the method comprising:

detecting a readback signal recorded on a magnetic medium, the readback signal containing a plurality of user data fields each having a predetermined length, and at least two control fields, each control field being arranged between two user data fields and containing at least one peak; and wherein at least two successive control fields contain only one transition;

adjusting wherein the selected readback channel parameter is a frequency of a readback channel system clock; and

~~wherein said adjusting includes adjusting the readback channel system clock based on a relative temporal position of the peak transition in each successive control field.~~

11. (original) The method according to claim 10, wherein said adjusting the readback channel system clock includes adjusting at least one of a frequency and a phase of the readback channel system clock.

12. (original) The method according to claim 8, wherein at least one control field contains a transition having a predetermined amplitude,

wherein the selected readback channel parameter is a gain of the readback signal, and

wherein said adjusting includes adjusting the gain of the readback signal based on the predetermined amplitude of the transition in each control field.

13. (currently amended) The method for adjusting channel parameters for a magnetic readback channel according to claim 8, the method comprising:

detecting a readback signal recorded on a magnetic medium, the readback signal containing a plurality of user data fields each having a predetermined length, and at least one control field, each control field being arranged between two user data fields and wherein at least two one control fields field containing contains a dibit having a zero crossing; and,

adjusting wherein the selected readback channel parameter is a frequency of a readback channel system clock, and

wherein said adjusting includes adjusting the readback channel system clock based on a relative temporal position the a zero crossing of each dibit in each successive control field.

14. (original) The method according to claim 13, wherein said adjusting the readback channel system clock includes adjusting at least one of a frequency and a phase of the readback channel system clock.

15. (original) The method according to claim 8, wherein at least one control field contains two transitions and each transition has a predetermined amplitude,
wherein the selected readback channel parameter is a gain of the readback signal,
and
wherein said adjusting includes adjusting the gain of the readback signal based on the predetermined amplitude of each transition in each control field.

16. (currently amended) ~~A~~The method according to claim 8, for adjusting channel parameters for a magnetic readback channel, the method comprising:
detecting a readback signal recorded on a magnetic medium, the readback signal containing a plurality of user data fields each having a predetermined length, and at least one control field, each control field being arranged between two user data fields and containing at least one transition, and wherein at least one control field containing contains a positive and a negative transition and each transition havinghas a predetermined amplitude; and
adjustingwherein the selected readback channel parameter is an amplitude asymmetry of the readback signal, and
~~wherein said adjusting includes adjusting the amplitude asymmetry of the readback signal~~ based on the predetermined amplitude of each transition in each control field.

17. (currently amended) The method according to claim 16-14, wherein said adjusting the amplitude asymmetry includes changing a bias current through a magnetoresistive sensor so that the magnetoresistive sensor operates in a linear operating mode.

18. (original) The method according to claim 8, wherein at least one control field contains a transition having a predetermined amplitude,

wherein the selected readback channel parameter is a equalization response of the readback signal, and

wherein said adjusting includes adjusting the equalization response of the readback signal based on the predetermined amplitude of the transition in each control field.

19. (original) The method according to claim 8, further comprising recording the readback signal on the magnetic medium.

20. (original) The method according to claim 8, wherein said adjusting at least one selected readback parameter includes optimizing at least one selected readback channel parameter based on information contained in at least one control field.

21. (original) The method according to claim 8, wherein each control field has a predetermined length.

22. (currently amended) A readback system, comprising:

a read head configured to detect a readback signal stored on a magnetic medium, the readback signal containing a plurality of user data fields each having a predetermined length, and at least one control field, each control field being arranged between two user data fields and containing at least one transition, at least one control field containing a first portion having a predetermined number of zeroes preceding a portion containing each transition of the control field, which precedes a second portion having the predetermined number of zeroes, the control field being completely formed by the first portion, the portion containing each transition of the control field and the second portion; and

a readback channel coupled to the readback head, wherein the readback channel adjusts at least one selected readback parameter of the readback channel based on information contained in at least one control field.

23. (canceled)

24. (currently amended) The readback system according to claim 22, comprising:
a read head configured to detect a readback signal stored on a magnetic medium,
the readback signal containing a plurality of user data fields each having a predetermined length,
and at least one control field, each control field being arranged between two user data fields and
wherein at least two successive control fields containing a peak only one transition; and
wherein the selected readback channel parameter is a frequency of a readback
channel system clock; and
a readback channel coupled to the readback head, the readback channel adjusting
a frequency of a readback system clock wherein the readback channel adjusts the readback
channel system clock based on a relative temporal position of the peak transition in each
successive control field.

25. (original) The readback system according to claim 22, wherein at least one control field contains a transition having a predetermined amplitude,

wherein the selected readback channel parameter is a gain of the readback signal,
and

wherein the readback channel adjusts the gain of the readback signal based on the predetermined amplitude of the transition in each control field.

26. (original) The readback system according to claim 25, wherein the readback channel system clock is adjusted by adjusting at least one of a frequency and a phase of the readback channel system clock.

27. (currently amended) ~~A~~The readback system according to claim 22, comprising
a read head configured to detect a readback signal stored on a magnetic medium,
the readback signal containing a plurality of user data fields each having a predetermined length,
and at least one control field, each control field being arranged between two user data fields, and
wherein at least two one control fields field containing contains a dibit, having a zero crossing; and
a readback channel coupled to the readback head, the readback channel adjusting
wherein the selected readback channel parameter is a frequency of a readback channel system
clock; and
wherein the readback channel adjusts the readback channel system clock based on
a relative temporal position the a zero crossing of each dibit in each successive control field.

28. (currently amended) The readback system according to claim 27, wherein the readback channel system clock is adjusted by adjusting at least one of a frequency and a phase of the readback channel system clock.

29. (original) The readback system according to claim 22, wherein at least one control field contains two transitions and each transition has a predetermined amplitude,
wherein the selected readback channel parameter is a gain of the readback signal,
and
wherein the readback channel adjusts the gain of the readback signal based on the predetermined amplitude of each transition in each control field.

30. (currently amended) ~~A~~The readback system according to claim 22, comprising:
a read head configured to detect a readback signal stored on a magnetic medium,
the readback signal containing a plurality of user data fields each having a predetermined length,
and at least one control field, each control field being arranged between two user data fields and

~~containing at least one transition, and wherein at least one control field containing contains a positive and a negative transition and each transition having has a predetermined amplitude; and a readback channel coupled to the readback head, the readback channel adjusting wherein the selected readback channel parameter is an amplitude asymmetry of the readback signal; and~~
~~wherein the readback channel adjusts the amplitude asymmetry of the readback signal based on the predetermined amplitude of each transition in each control field.~~

31. (original) The readback system according to claim 30, wherein the readback channel changes a bias current through a magnetoresistive sensor so that the magnetoresistive sensor operates in a linear operating mode.

32. (original) The readback system according to claim 22, wherein at least one control field contains a transition having a predetermined amplitude,
wherein the selected readback channel parameter is a equalization response of the readback signal, and
wherein the readback channel adjusts the equalization response of the readback signal based on the predetermined amplitude of the transition in each control field.

33. (original) The readback system according to claim 22, wherein the readback channel adjusts at least one selected readback parameter by optimizing at least one selected readback channel parameter based on information contained in at least one control field.

34. (original) The readback system according to claim 22, wherein each control field has a predetermined length.

35. (original) The readback system according to claim 22, wherein the readback channel is part of a hard tape drive.

36. (original) The readback system according to claim 22, wherein the readback channel is part of a magnetic disk drive.